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HYDROGEN/ELECTRIC ENERGY DISTRIBUTION SYSTEM

Abstract of the Disclosure

An energy delivery system for regenerative fuel cell vehicles includes a plurality of geographically distributed stations (100). Each station includes an external port 109 that supplies the chemical constituents for manufacturing hydrogen fuel on-board a vehicle. Specifically, the port provides water from a municipal water supply (124) and an electricity connection to the electrical transmission and distribution grid (122) and the building's local electrical distribution system (114). Additionally, the port provides for the transmission of data from the vehicle over the Internet to the electrical service providers that sell electrical power to retail customers over the distribution grid. Supply of power, and the flow of data, through the external port is automatically controlled via a port controller. Each regenerative fuel cell vehicle is provided with a corresponding internal port (105) that supplies water and electricity, received from the external port through a connecting cable (107), to an on-board electrolytic hydrogen fuel production plant (120). An on-board energy management computer (624) controls the purchase of electricity by the vehicle from the station, the particulars of which may be negotiated over the Internet by the external port controller (103) and/or the internal on-board energy management computer. Additionally, the vehicle can generate electricity from internally stored hydrogen, for delivery to the building's local electrical distribution system via the external station. The on-board energy management computer (624) controls the sale of electricity by the vehicle to the station, the particulars of which may be negotiated over the Internet by the external port controller (103) and/or the internal on-board energy management computer.

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